

(19)

Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 091 124 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
02.01.2003 Bulletin 2003/01

(51) Int Cl.7: **F04B 27/18**

(43) Date of publication A2:
11.04.2001 Bulletin 2001/15

(21) Application number: 00120907.1

(22) Date of filing: 26.09.2000

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

- Okii, Toshiki, c/o Fujikoki Corporation
Tokyo 158-0082 (JP)
- Kume, Yoshiyuki, c/o Fujikoki Corporation
Tokyo 158-0082 (JP)

(30) Priority: 04.10.1999 JP 28287799

(71) Applicant: Fujikoki Corporation
Tokyo 158-0082 (JP)

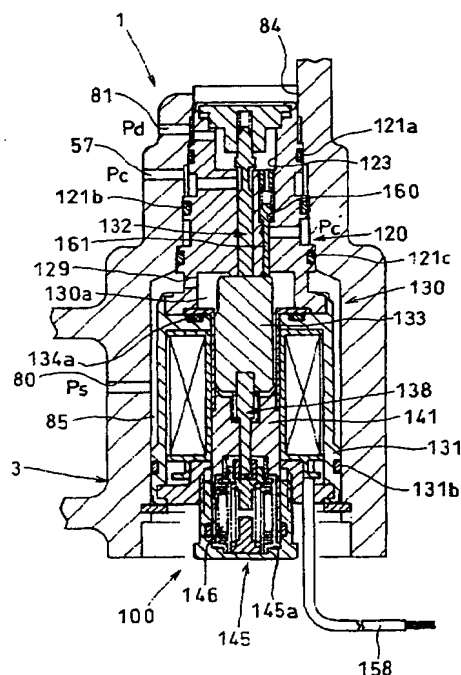
(74) Representative:
Gleiss, Alf-Olav, Dr.jur. Dipl.-Ing. et al
Gleiss & Grosse
Leitzstrasse 45
70469 Stuttgart (DE)

(72) Inventors:
• Imai, Masayuki, c/o Fujikoki Corporation
Tokyo 158-0082 (JP)

(54) Control valve for variable capacity compressors

(57) A control valve (100) for a variable capacity compressor, which comprises a centrally arranged solenoid magnetization portion (130), a main body (120) disposed on one side of the solenoid magnetization portion, and a pressure sensitive portion (145) disposed on the other side of the solenoid magnetization portion (130). The main body (120) comprises a discharge coolant port (81) communicating with a discharge pressure region of the variable capacity compressor, a first intermediate coolant port (128) communicating with a first intermediate pressure region in the crankcase of the compressor, a suction coolant port (129) communicating with a suction pressure region, and a second intermediate coolant port (164) communicating with a second intermediate pressure region of the variable capacity compressor.

FIG. 1



EP 1 091 124 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 00 12 0907

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
E	EP 0 992 684 A (TGK CO LTD) 12 April 2000 (2000-04-12) * page 6, column 10, line 7-55; figures 8-13 *	1	F04B27/18
Y	US 5 702 235 A (ITO NAQYUKI ET AL) 30 December 1997 (1997-12-30) * page 9, column 4, line 4-28; figures 1,2 *	1,4	
Y,D	EP 0 919 720 A (FUJIKOKI CORP ;ZEXEL CORP (JP)) 2 June 1999 (1999-06-02) * page 6, column 9, line 50 - column 10, line 38; figure 4 *	1,4	
A	US 5 332 365 A (TAGUCHI YUKIHIKO) 26 July 1994 (1994-07-26) * abstract; figure 3 *	1-4	
A	EP 0 814 262 A (TOYODA AUTOMATIC LOOM WORKS) 29 December 1997 (1997-12-29) * abstract; figures 2,3 *	1-4	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F04B
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 6 November 2002	Examiner Olona Laglera, C
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 (03.82) (F04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 00 12 0907

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-11-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0992684	A	12-04-2000	JP	2000110731 A	18-04-2000
			JP	2001027182 A	30-01-2001
			EP	0992684 A2	12-04-2000
			US	6302656 B1	16-10-2001

US 5702235	A	30-12-1997	JP	9126124 A	13-05-1997
			AT	189042 T	15-02-2000
			DE	69606261 D1	24-02-2000
			DE	69606261 T2	08-06-2000
			EP	0771948 A1	07-05-1997
			ES	2142510 T3	16-04-2000

EP 0919720	A	02-06-1999	JP	11218078 A	10-08-1999
			EP	0919720 A2	02-06-1999
			US	6217290 B1	17-04-2001

US 5332365	A	26-07-1994	JP	5099136 A	20-04-1993
			AU	659217 B2	11-05-1995
			AU	2620792 A	08-04-1993
			CA	2080066 A1	08-04-1993
			EP	0536989 A1	14-04-1993
			US	RE35672 E	25-11-1997

EP 0814262	A	29-12-1997	JP	10002284 A	06-01-1998
			CA	2207960 A1	17-12-1997
			CN	1193695 A ,B	23-09-1998
			EP	0814262 A2	29-12-1997
			KR	215158 B1	16-08-1999
			US	6126405 A	03-10-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82